More specifically, the modules 15 (not shown) are loaded onto the module racks 65 which, in turn, is connected to the WWW 700 via a communication server 55. Likewise, a BERT processor 150 is connected to the WWW 700 via communications server 55.

Fig. 7 further specifies and RS-232 communication protocol between the modules racks 65 and the communication server 55 but it is to be understood that a variety of other communications protocols could be used.

An Ethernet box 70 provides connectivity between the WWW 700 and SONET/SDH test equipment 125. The temperature of the ESSR may be monitored by oven temp sensor 750 the reading of which may be forwarded to the WWW 700 via Ethernet box 70. Again, the Ethernet protocol is merely an example of the variety of communications protocols that may be used by the invention.

To permit remote access to the virtual oven 10, a laptop 730 and/or workstation 720 are provided. Laptop computer 720 may be connected to the WWW 700 via a MODEM 740. Workstation 720 may be directly connected to the WWW 700 as shown.

PC 710 may also be connected to the WWW 700 as further shown in Fig. 7 via an Ethernet connection. The PC 710 is intended to serve as the AMS controller 100. With the configuration shown in Fig. 7 a fully functional web-based remote control and monitoring system may be utilized to monitor and control the virtual oven 10.

Operation of the Invention

Fig. 8 is a flowchart illustrating a method of operation according to the invention. This method is intended for a logical group 30 having only two modules 15. Fig. 9

illustrates the method for three (or more) modules 15 per logical group 30. The method shown in Figs. 8 and 9 is executed by the AMS controller 100 (or PC 50 of Fig. 4).

As indicated by the start icon in Fig. 8 both modules 15 (labeled "first module" and "second module") may begin their testing at the same time. To keep track of the time, the timer 12 associated with each logical group 30 may be utilized as illustrated in Figs. 1a and 1b.

Following the processing path for the first module, the burn-in test begins with an active test. The flowchart reflects the preference for continuing the passive testing while the active testing is performed so that more data may be collected for each module 15 under burn-in test.

The initiate the active test, the AMS controller 100 switches the hardware (e.g. by controlling the switch 35, optical switch 135, switch 235, switches 235 & 245 or by controlling the burn-in network 20 and communication server 55) to feed the test signal to the first module in the virtual oven 10.

During the active test, signals are fed to the first module in a manner illustrated in Figs. 4, 5, 6a-6e or 7; processed by the module 15; and sent back to the test equipment (e.g. test equipment 25, BERT processor 150, or SONET/SDH test equipment 125 which are also called "active test equipment" herein). The signals fed to the first module are sufficient to exercise or otherwise perform an active, functional test of the first module.

The passive test may include sending a command to the module 15 to place the module 15 into a desired state. This step is optional but may be quite advantageous when the module 15 has a variety of operational states. Furthermore, some or all of the

operational states may be activated by sending a different command to the module during subsequent iterations of the loop.

The first module is also monitored (passively tested) by the AMS controller 100 which records the passive test results in the database 40. It is preferred that such passive test(s) run in parallel with any active tests in order to gather a fuller complement of test data.

The results of the active test are also stored and monitored (e.g. first module is actively tested the results of which are stored by the AMS controller in the database 40).

The method then checks whether the active test time has been completed. This may be performed by the AMS controller 100 checking the timer 12 associated with the logical group 30 under test. If two modules 15 are being tested as in Fig. 8, then the test cycle may be divided into two even parts such that the first module is actively tested during the first half of the test cycle and the second module is actively tested during the second half of the test cycle.

If the active test cycle is not yet completed for the first module, then the active and/or passive test results (data) are checked or otherwise compared against pre-stored limits (e.g. tolerances). For example, if the BER rate exceeds the tolerance level, then the first module fails the active test. As another example, if one of the monitored parameters (e.g. temperature reading) is outside desired parameters, then the first module may also fail the passive test for that reason. Instead of using a pass/fail criteria, the invention may also flag or otherwise indicate that certain parameters are outside tolerances. Such criteria may be used by the AMS controller 100 to decide whether to subject that particular module 15 to re-testing, reworking, or other action. The database 40 may store all such criteria.